

RUNNING HEAD: Group Norm, Identity and Cooperation

When Does Group Norm or Group Identity Predict Cooperation
in a Public Goods Dilemma? The Moderating Effects of Idiocentrism and Allocentrism

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Abstract

In this study we examined how perceived group norm and group identity influence individual cooperative behavior in a public goods dilemma across cultural settings. Six hundred and eight students in the United States and People's Republic of China participated in a laboratory experiment in which group norm and group identity were manipulated and the individual cultural orientations of idiocentrism and allocentrism were measured. We found that idiocentrism and allocentrism moderated the relationship between perceived group norm and cooperation but not between group identity and cooperation. In particular, members who endorsed allocentrism to a greater extent cooperated more when they perceived a more cooperative group norm than did members who endorsed lower levels of allocentrism. On the other hand, people scored high on idiocentrism cooperated less when perceiving a more cooperative norm than did people scored low on idiocentrism. The results suggest that allocentrics are not cooperative in every context but are rather highly sensitive to social cues whereas idiocentrics, while tending to behave in a way that maximizes personal outcomes at the expense of the group, are also somewhat aloof to the situation.

KEYWORDS: Group norm, group identity, culture, cooperation, social dilemma

When Does Group Norm or Group Identity Predict Cooperation in a Public Goods Dilemma? The Moderating Effects of Idiocentrism and Allocentrism

1. Introduction

A social dilemma is a situation in which two or more persons receive a higher payoff for a non-cooperative choice (defection) than for a cooperative choice—no matter what the other members choose—but all members are better off if all cooperate than if all defect (Dawes, 1980). One type of social dilemma is what Olson (1965) referred to as a “public goods dilemma”. A public good is a commodity that can be provided only if group members contribute something towards its provision; however all persons—contributors and non-contributors—may use it (Komorita & Parks, 1995). The problem of the provision of public goods has attracted the attention of a number of scholars because of an interesting dilemma—individually rational/reasonable behavior by every person in a collective could lead everyone in the collective to be worse off than if they had adopted some other behavior. For example, if a project team member decides to contribute little time, effort and resources to a project while most of the other members choose to work as hard as they could to make it a success, this member can enjoy the benefits associated with the success of the project at minimal cost. However, if everyone acts in this manner, no contribution would be made and there would be no successful projects – a situation where everyone is worse off than if the public good were available. Thus, it is important to understand the processes through which members make their cooperative decisions.

The effectiveness of communication, especially face-to-face discussion, in cooperation induction has been a robust finding in social dilemma research (e.g., Dawes, McTavish, &

Shaklee, 1977; van de Kragt, Orbell, & Dawes, 1983). Among the many hypotheses proposed to explain this effect, the group identity hypothesis has been most compelling (Brewer & Kramer, 1986; Dawes, Orbell, & van de Kragt, 1988; Dawes, van de Kragt, & Orbell, 1990; Kramer, 1993). Group identity can be defined as members' positive attitudes toward their group (Hinkle, Taylor, Fox-Cardamone & Crook, 1989), which includes cognitive, affective, and behavioral components. The group identity hypothesis states that group discussion promotes members' identity (or positive attitudes) toward the group, or a substitution of group regard for individual concern (Messick & Brewer, 1983), which increases group members' cooperative behavior. Brewer and Kramer (1986) and Kramer and Brewer (1984) used a "common fate" manipulation for group identity and found that people who shared "common fate" were more willing to cooperate. Dawes, van de Kragt, and Orbell (1990), after reviewing the series of studies they conducted during the past ten or more years, concluded that "with no discussion, egoistic motives explain cooperation; with discussion, group identity--alone or in interaction with verbal promises--explains its dramatic increase" (p.109).

An alternative explanation that received much less attention, however, was the normative influence (Deutsch & Gerard, 1955) that might have been generated during group discussion of the social dilemma. In other words, communication might have been used as a channel to convey information about group norms and values (Kramer, 1989), and the perception of such social norms may have had a direct impact on members' behavior. Social norms are commonly considered legitimate and socially shared guidelines to accepted and expected behavior (Birenbaum & Sagarin, 1976). Although the group norm hypothesis has been used to explain base cooperation rates, to provide post-hoc explanations for cooperation, or as just another source of error variance, it has rarely been the direct focus of the social

dilemma research (except for Bonacich, 1972 and Pillutla & Chen, 1999).

One of the reasons for the apparent disinterest in norms, according to Kerr's (1992) analysis, is "the theoretical and methodological traditions from which social dilemma research sprang" (p.34). The initial interest in social dilemmas was aroused by game theorists and economists who tended to preclude consideration of social reward systems (e.g., Homans, 1950; Thibaut & Kelley, 1959; Kelley & Thibaut, 1978). Another reason is that "norms may be viewed as important but uninteresting factors in social dilemma behavior" (Kerr, 1992, p.35). As Davis (1971) has noted, we tend to view findings that contradict our basic assumptions as implausible, and results that are fully consistent with those basic assumptions as uninteresting and obvious. The effect of norms seems to fall in the latter category, namely, norms guide individual behavior, so finding people behave consistently with what the social norm would suggest is not interesting.

An alternative reason that we offer to explain the disinterest in the influence of norms in mainstream social dilemma research is related to cultural influence. The majority of social dilemma studies are conducted in the Western cultural contexts where both the researcher and the participant hold more individualistic cultural values—values that emphasize independence, individual goals, and self-reliance (Hofstede, 1980, 1991; Triandis, 1995). While both social norms and individual attitudes are important determinants of behavior (Ajzen & Fishbein, 1980), research from cross-cultural psychology suggests that in an individualistic culture, people's behavior is more likely to be driven by their own attitudes rather than norms (Bontempo & Rivero, 1992; Suh, Diener, Oishi, & Triandis, 1998; Triandis, 1995). This may explain why group identity (members' attitude toward the group) became the dominant explanation of the communication effect and why more studies have been conducted to test

the group identity hypothesis rather than the group norm hypothesis. In the present study, we will examine how individual cultural orientations moderate the effect of group norm and group identity on individual cooperative decision-making in a public goods dilemma.

1.1 Individual Cultural Orientation

Individual cultural orientation refers to an individual's cultural values independent of the dominant cultural orientation of the society in which he/she resides. Whereas individualism and collectivism represent the general attributes of a given culture, the terms "idiocentrism" and "allocentrism" have been used to measure the individual-level orientations that reflect these cultural values (Triandis, 1989). Idiocentrics view the self as being separate from others, are concerned with personal achievement, and give priority to personal goals over the goals of collectives. Conversely, allocentrics view the self as embedded in social contexts. They are concerned with interpersonal harmony so that when they make distinctions between personal and collective goals they subordinate their personal goals to the collective goals. From the individual perspective, according to Triandis and his colleagues, idiocentrism and allocentrism are distinct constructs measurable along a normal distribution (Triandis, Leung, Villareal, & Clack, 1985). Oyserman, Coon, and Kemmelmeier's (2002) meta-analysis of individualism-collectivism (or idiocentrism and allocentrism at the individual level) studies in the past two decades supports the notion that idiocentrism and allocentrism are not two ends of a single continuum but two distinct dimensions. Common societal influences tend to make one of these two dimensions higher on average in any particular societal culture; however, individuals often differ from their society's trends. In this study, we adopt an individual-level approach to culture and assume that individual cultural orientations are internalized cognitive structures that could guide choices by evoking a sense of basic principles of right and wrong,

as well as priorities, such as personal achievement vs. collective good (Oyserman et al., 2002). In particular, we study how these individual cultural orientations interact with group norm, or with group identity, in determining cooperative behaviors in a public goods dilemma.

1.1.1 Group Norm, Idiocentrism, Allocentrism, and Cooperation

There are many definitions of group/social norms. One definition is that social norms are guides for human conduct that are accepted and expected in a given situation at a given time (Birenbaum & Sagarin, 1976). Another view of social norms focuses on the sense-making role they play. For example, Raven and Rubin (1976) suggest that norms provide order and meaning to what otherwise might be seen as an ambiguous, uncertain, or perhaps threatening situation. One source of such sense making norms is the behavior or the expected behavior of others in the situation, because others' behavioral patterns indicate what is appropriate and not appropriate in the situation. These two different views of norms lead to the distinction made between norms (e.g., Cialdini, Reno, & Kallgren, 1990; Pillutla & Chen, 1999). One distinction is the implicit vs. perceived norms (Pillutla & Chen, 1999). Implicit norms refer to the behavioral expectations of what one ought to do in a given context, for example, cooperation in social spheres of life but competition in economic spheres of life. Perceived norms, on the other hand, refer to the observed (already observed or expect to be observed) behavioral patterns from others in a given context. Implicit norms and perceived norms sometimes could be in conflict, such as observing strong competition in an event that is primarily socially oriented, or observing cooperation in economic settings. Pillutla and Chen (1999) found that the perceived norm was more important than the implicit norm in determining cooperation when these two norms were inconsistent, especially in situations where implicit norm suggested

cooperation but perceived norm revealed competition, in which case cooperation dropped dramatically. In this study, we focus on the perceived group norms and define it as member's perceptions of majority others' expected behavior in a given situation.

People generally conform to the norms (be it implicit or perceived norm) of their groups for many reasons. There are two main explanations for such conformity (Insko, 1985). First, people want to be right. It has been inculcated in them, sometimes from earliest childhood, that norms are the right and proper ways. Second, people want to get social approval or acceptance. Following what the majority does or what the norm would suggest reduces the risk of being excluded from the group. On the other hand, we also observe non-conformative behaviors (deviant behaviors that are not illegal). For example, people dress casually in a formal job interview, or do not come to meetings that all members are expected to attend. There are also many social explanations for the prevalence of non-conformative behaviors. For one thing, at least in individualistic cultures such as the United States, being unique and different are highly valued (Oyserman et al., 2002; Triandis, 1995). Second, it is possible that the specific rewards (monetary) for non-conformative behaviors may be greater than that for conformative behaviors. In the public goods dilemma, for instance, a conformative behavior to cooperative group norms will result in a lower amount of monetary payoff for the conforming individual than will a non-conformative behavior. In such situations, a conformative behavior blocks the individual member to achieve his personal goal of financial success, although fulfills his desire of getting social approval. Therefore, whether a person values individual achievement or interpersonal harmony will largely determine which course of action one would choose.

Since allocentrics are concerned with interpersonal harmony and fitting in the group, they are more likely to use social cues for appropriate behavior. Research using the priming technique in evoking participants' self-construal has found that when primed with independence versus interdependence, participants differ in their memory and information processing style. Specifically, interdependence priming increases sensitivity to contextual information, and these differences parallel those found when contrasting the responses of Chinese (more interdependent) and German (more independent) participants (Haberstroh, Oyserman, Schwarz, & Kühnen, 2002). These results suggest that allocentrics pay more attention to group norms and are more likely to use them in guiding their behavior.

On the other hand, when idiocentrics perceive a cooperative group norm, they are more likely to examine the costs and benefits associated with conforming to the norm. If conforming to the norm helps to achieve their individual goal of financial success, it is likely that they will behave consistently with the perceived norm. If doing so does not help achieving individual goal, it is likely that they will not behave consistently with the norm. In the public goods dilemma, when idiocentrics perceive that other group members are contributing to the public good, it is likely that they will view it as a good opportunity to take advantage and maximize their personal gain. Therefore, we hypothesized

H1a: Allocentrism will moderate the effect of group norm on cooperation such that more allocentric persons will be more likely to cooperate when they perceive a more cooperative group norm than will less allocentric persons, and

H1b: Idiocentrism will moderate the effect of cooperative group norm on cooperation such that more idiocentric persons will be less likely to cooperate when they perceive a more cooperative group norm than will less idiocentric persons.

1.1.2 Group Identity, Idiocentrism, Allocentrism, and Cooperation

Group identity is defined as members' attitude toward the group that consists of cognitive, affective, and behavioral components (Hinkle et al., 1989). Over the last two decades, social dilemma research has demonstrated the positive effect of group identity on people's willingness to contribute toward their collective welfare (Dawes et al., 1988, 1990; Kramer & Brewer, 1984; Kramer & Goldman, 1995). One explanation for this effect is that strengthening group identity increases the value people attach to the group's welfare vs. their personal welfare (De Cremer & van Vugt, 1999; Kramer & Goldman, 1995). Studies examining the moderating influence of social value orientation on the effect of group identity (e.g., Liebrand & McClintock, 1998; van Lange & Kuhlman, 1990) have shown that the decisions of proselves (i.e., competitors, people who want to maximize the difference between their own and others' outcomes, and individualists, people who want to maximize their own outcome, regardless of others' outcome) are more likely to be affected by group identity (De Cremer & van Dijk, 2002; Kramer & Goldman, 1995). When group identity is strong, their motives are transformed from the personal to the group level, thereby increasing cooperation. Because the core values held by the proselves and by the idiocentrics are similar, there might be a moderating effect of idiocentrism on the relationship between group identity and cooperation. However there has not been any empirical work examining such moderating effect.

As we discussed earlier, for idiocentrics attitudes are their main determinants of social behavior (Bontempo & Rivero, 1992). In the public goods dilemma context, it implies that idiocentrics will be more likely to cooperate if they have a more positive attitude toward their group. Moreover, high group identification may change how

idiocentrics define self-interest, they are likely to be motivated to turn a collective payoff into a more personal one. Therefore, the higher the idiocentrics identify with the group, the more likely they will contribute to the public good. On the other hand, in the public goods dilemma context, members' attitudes toward their group (or group identity) are not likely determinants of cooperation for allocentrics. Therefore,

H2: Idiocentrism will moderate the relationship between group identity and cooperation such that more idiocentric persons will be more likely to cooperate when they have higher levels of group identity than will less idiocentric persons.

2. Method

2.1 Participants

Participants were 608 undergraduate students (292 Americans from a university in the Midwest of the US and 316 Chinese from a university in the Midwest of PRC) who voluntarily signed up for the experiment. A total of 151 one 4-person groups were formed. All participants received monetary payment for their participation contingent upon the experimental conditions, as well as their performance in the experiment.

2.2 Experimental Task

An experimental paradigm that has been used to study the public goods dilemma is an adaptation of Marwell and Ames' (1979) public goods simulation (e.g., Chen, 1996; Komorita, Parks, & Hulbert, 1992). Accordingly, participants were asked to play the role of a member of a four-person work group and make a decision in a hypothetical work environment. Each participant was given 10 free hours over the weekend and each hour was worth \$1 (1RMB in PRC). Participants were informed that there was a large customer demand for product A and that they had to work extra hours to meet this demand. They were

asked to decide how many extra hours (from 0 to 10) they would like to put into work over the weekend. Specifically, they were told that (1) the hours they kept for themselves (P-account) would keep their original value and this value would belong to themselves, (2) the hours they allocated to the group task (J-account) would double in their value but it would be equally distributed among all group members, regardless of the number of hours each member actually put into the group task, and (3) their individual payoff would be the sum the hours in the P-account and their equal share from the J-account. Table 1 presents the payoff matrix for this simulation. It can be seen that investing \$0 to the J-account yields higher payoffs no matter what the other members do. But if everyone contributes \$0, each receives \$10, which is less than \$20 if everyone contributes \$10 to the J-account. Three examples were given as illustrations of this pay system.

----- Insert Table 1 about here -----

2.3 Design and Procedure

2.3.1 Design. In this study, we attempted to create different levels of cooperative group norm, group identity, and idiocentrism and allocentrism in a laboratory experiment through the manipulation of three factors. Specifically, we conducted the experiment in both the United States (US) and the People's Republic of China (PRC) to create a large variance of idiocentrism and allocentrism among participants because the findings from Hofstede's (1980) large scale survey of beliefs and values suggest that at the cultural level, the US is high on individualism, whereas countries having populations of Chinese background (e.g., Hong Kong, Taiwan, Singapore) are high on collectivism. The results from Oyserman et al.'s (2002) meta-analysis again confirmed this observation.

The familiarity factor was manipulated by asking participants to bring their familiar others/friends to the lab or by randomly assigning participants into groups. This manipulation would create variance in members' attitude toward the group because groups consisting of familiar others are more likely to have more positive attitudes toward one another than are groups consisting of randomly assigned members. This manipulation would also create variance in members' perception of a cooperative group norm because more familiarity could evoke expectations of more cooperative behaviors from other members.

Another factor we manipulated in our experiment was whether to let group members have a warm-up interaction before they make their individual decision or not. The purpose of this manipulation was again to create more variance among participants in terms of their levels of group identity. Previous studies (e.g., Bouas & Komorita, 1996) have shown that members who had warm-up interactions (e.g., group discussion on a non-social dilemma issue) had more positive attitudes toward their group than those who did not have such interaction, which would suggest that a group of randomly assigned members who have the warm-up interaction will have more positive attitudes toward their group than a group of randomly assigned members who have no interaction at all. This way, we were able to create different levels of group identity even within groups consisting of non-familiar members, and the same for perceptions of a cooperative group norm.

2.3.2 Procedure. At the beginning of the experiment, all participants were given six "wilderness survival" problems to read and think about. Participants in the Warm-up Interaction condition were then asked to discuss these problems with one another and reach consensus about the solutions. Participants in the No-Warm-up Interaction condition, on the other hand, were asked to solve these problems individually. After all the problems were

solved, participants in both conditions were given the Group Identification Scale (GIS: Hinkle, et al., 1989). Following the completion of the GIS, they were presented with the experimental task described above (also read aloud by the experimenter) and asked to make a decision individually and anonymously as to how many hours (0 to 10) they would like to work over the weekend. To make sure that all understood the task, a short quiz (with a full debriefing) was given before the decision-making.

After collecting their decisions but before giving them feedback about other members' decisions, participants were asked to fill out two questionnaires (one at a time). The first questionnaire included group norm related questions. The second questionnaire was the INDCOL (Singelis, Triandis, Bhawuk & Gelfand, 1995), for measuring individual cultural orientations. After participants finished all the questionnaires, they were given feedback about each member's decision and their own payoffs. They were then thanked, debriefed, paid and dismissed individually. The whole experiment lasted about 50 minutes and participants received an average of \$15 in US and RMB15 in PRC.

2.4 Measures

2.4.1 Cultural Orientation. Singelis et al.'s (1995) 32-item INDCOL was used to measure individual cultural orientation. Although this scale was originally designed to measure four types of cultural orientations—horizontal and vertical individualism and horizontal and vertical collectivism, based on the validation studies (Triandis & Gelfand, 1998) we combined the two collectivism subscales to measure allocentrism and used the horizontal individualism scale as an indicator of idiocentrism. Indeed, the meta-analytic evidence by Oyserman et al. (2002) also indicated that the two collectivism subscales in Singelis et al.'s (1995) instrument were correlated, and that the two individualism subscales

were orthogonal, with the content of the vertical individualism subscale unrelated to the core element of idiocentrism. Our decision was further supported by confirmatory factor analysis as well as item-scale statistics, which showed that in both samples the two latent collectivism factors were highly correlated (ranging from $\Phi = .63$ to $\Phi = .72$), whereas the latent individualism factors were orthogonal in the U.S. sample ($\Phi = .11$) and the vertical individualism scale showed low internal consistency in the Chinese sample. The consistency coefficients (α) for idiocentrism were .83 and .72, and allocentrism were .80 and .70, respectively for the Americans and Chinese.

2.4.2 Perceptions of Group Norm. Two questions assessed members' perceptions of group norm: (1) The other people were making choices to maximize the group interest and (2) The other people were making choices to maximize their own payoff (reverse-coded). A nine-point Likert scale was used (*1: strongly disagree; 9: strongly agree*). The consistency coefficient (α) for this two-item scale was .74 and .67 for the Chinese and American samples, respectively.

2.4.3 Group Identity. The Group Identification Scale (GIS: Hinkle et al., 1989) was used to measure members' attitudes toward their group. The consistency coefficient (α) for this scale was .76 for the Chinese and .93 for the American samples.

2.4.4 Cooperation. The number of hours participants allocated to the group task (J-account) was used as the index of cooperation.

2.5 Measurement Equivalence

First of all, we examined the measurement equivalence of the scales of interest (idiocentrism, allocentrism, group identity and perceived norm) across the two samples. Prior

to the analysis, multi-item composites were created for the idiocentrism, allocentrism and group identity scales. Multi-item composites reduce the total number items to a manageable level and provide indicators with higher reliability than that of single items (MacCallum, Roznowski, & Necowitz, 1992). To test for measurement equivalence, the first step involved the fitting of measurement models separately within each of the two samples. This step shows the extent to which the indicators represent the underlying latent constructs separately within each sample. Table 2 shows that the goodness-of-fit indices obtained for measurement models estimated for each sample separately are very satisfactory.

----- Insert Table 2 about here -----

Next, the measurement model was estimated simultaneously across the two groups twice, the first was a multi-sample analysis to establish a baseline of fit, and the second imposed an equality constraint on the factor loadings. If the equality constraint imposed on the factor loadings results in a significant decrement in the fit indices obtained from the baseline model, one cannot argue for measurement invariance. Table 2 shows the fit indices for the baseline as well as the constrained model. It can be seen that the invariance constraint on the factor loadings did not result a significant decrement and in fact, the constrained model fit the data very well. Therefore, we concluded that the constructs had been adequately measured for both samples.

2.6 Data Analysis

As the subjective feelings (group norm, group identity) created through the experimental manipulation were the interest of this study, and these as well as cultural orientation measures were all continuous variables, we used hierarchical regression analysis to test our hypotheses. We entered the country as a control variable in the first step of the

regression. In the second step, we entered the main effects of group norm, group identity, idiocentrism and allocentrism. In the third step, we entered the interactions between group norm, group identity and individual cultural orientations. All variables were centered around their mean to avoid multicollinearity.

3. Results

Table 3 shows the means, standard deviations, and correlations among the variables for the combined samples. It can be seen that there is a negative correlation between country and allocentrism ($r = -.15, p < .01$) and a positive correlation between country and idiocentrism ($r = .41, p < .01$), suggesting that Chinese are more allocentric than Americans, whereas the Americans are more idiocentric than the Chinese. The correlation between allocentrism and idiocentrism is negative but small ($r = -.17, p < .05$), suggesting that although related, these two constructs are distinct. Furthermore, the positive correlations between familiarity and group norm ($r = .28, p < .01$) and between familiarity and group identity ($r = .50, p < .01$) suggest that this manipulation induced different levels of norm perception and group identity as expected. The positive correlation between Warm-up Interaction and group identity ($r = .17, p < .05$) also indicates that this manipulation indeed evoked different attitudes toward the group among participants.

-----Insert Table 3 about here-----

Hypothesis 1a predicted that the relationship between perceived group norm and cooperation would be moderated by allocentrism. Namely, more allocentric persons would contribute more hours to the group task when they perceived a more cooperative norm than would less allocentric persons. As shown in Table 4, the two-way interaction (GN x Allocentrism) was positive and significant ($\beta = .09, p < .05$), providing support for H1a. .

Figure 1 illustrates the form of the interaction. To reveal participants' behavioral patterns, we conducted a two-way ANOVA using median split on allocentrism and perceived group norm. This analysis revealed a significant interaction between the perceived group norm and allocentrism ($F(1, 596) = 4.32, p < .05$). In particular, we found that when perceiving a more cooperative group norm, those scoring high on allocentrism contributed significantly more hours (mean = 7.50) to the group task than those scoring low on allocentrism (mean = 6.51), whereas when perceiving a less cooperative group norm, people who score high or low on allocentrism did not differ significantly in their contribution (mean = 5.94 and 5.89, respectively). We additionally conducted simple slope tests as recommended by Aiken and West (1991). These tests involved estimating the slope of the relationship between group norm and individual cooperation at high and low levels (one standard deviation above and below the mean) of the postulated moderator variable (i.e., allocentrism). The tests revealed that group norm was positively related to cooperation for individuals scoring high on allocentrism ($\beta = .32, p < .001$), but no significant relationship was found for individuals low on allocentrism ($\beta = .08, n.s.$).

----- Insert Table 4 and Figure 1 about here -----

Hypothesis 1b predicted that the relationship between perceived group norm and cooperation would be moderated by idiocentrism. Specifically, more idiocentric persons would contribute fewer hours to the group task when perceiving a more cooperative norm than would less idiocentric persons. It can be seen from Table 4 that the two-way interaction (GN x Idiocentrism) was negative and significant ($\beta = -.15, p < .01$), providing support for H1b. We conducted a two-way ANOVA using median split on idiocentrism

and perceived group norm and found that the interaction between these two variables was significant ($F(1, 603) = 10.8, p < .01$). As can be seen from Figure 2, when perceiving a more cooperative norm, people scoring high on idiocentrism contributed significantly fewer hours (mean = 6.67) to the group task than those who scored low on idiocentrism (mean = 7.40), supporting our hypothesis. Furthermore, mirroring the findings on high allocentrics persons, we found that low idiocentrics contributed more hours when perceiving a more cooperative norm (mean = 7.40) than when perceiving a less cooperative norm (mean = 5.52). On the other hand, the analysis reveals that the changes between the contribution made by the highly idiocentrics under the high versus low group norm condition is minimal (6.67 vs. 6.26), suggesting that idiocentrics are not very susceptible to normative influence. The simple slope analyses also indicated that group norm was positively related to cooperation for individuals scoring low on idiocentrism ($\beta = .35, p < .001$), but not related for individuals high on idiocentrism ($\beta = .08, n.s.$).

----- Insert Figure 2 about here -----

Hypothesis 2 predicted that the relationship between group identity and cooperation would be moderated by idiocentrism but not by allocentrism. As shown in Table 4, contrary to our expectations, we found that the two-way interaction between group identity and idiocentrism was positive but not significant ($\beta = .07, n.s.$). The interaction between group identity and allocentrism was not significant either ($\beta = .02, n.s.$). These results suggest that the positive relationship between group identity and cooperation seem to sustain regardless of participants' individual cultural orientation.

Finally, in order to ensure that the results obtained were not a function of social norms within each country and were attributable to the individual difference variables of interest, the regressions were repeated separately for each country. The trends observed in these analyses largely supported the results reported above. Although not as many interactions were significant this time, it is very likely that this is due to the relatively smaller sample sizes. As proposed, the interactions between idiocentrism and group norms were found to be negative for both countries, but were not statistically significant. While insignificant for the Chinese sample, allocentrism positively moderated the relationship between group norms and cooperation for the US sample ($\beta = .14, p < .05$). In both countries as well as the combined sample, the interaction between idiocentrism and group identity was positive as predicted, but not significant. Finally, as proposed, no moderating effect of allocentrism was observed for the relationship between group identity and cooperation across the board.

4. Discussion

The main purpose of this study was to explore how the effects of group norm and group identity on cooperation in a public goods dilemma are influenced by individual cultural orientations of idiocentrism and allocentrism. Our results show that more allocentric persons contribute more to the public good when perceiving a cooperative group norm than do less allocentric persons. On the other hand, more idiocentric persons contribute less to the public good when perceiving a cooperative group norm than do less idiocentric persons. These results provide a more complete yet complicated picture on how norms influence individual behavior than what we initially theorized. First, it appears that

more allocentric persons are not just always cooperating in group situations, rather, they distinguish between more and less cooperative norms and are only more likely to comply when the norm is more cooperative. This finding is remarkably similar to Chatman and Barsade's (1995) observation that while allocentrics tended to cooperate more in collectivistic organizations (i.e., when they perceive cooperative norms to prevail), they significantly decreased cooperation behaviors when the organization culture was manipulated to be endorsing individualistic norms. It appears that allocentrics are highly sensitive to social cues and their behavior is much dependent on the situational norms.

Second, while our results support the notion that idiocentrics tend to behave in a way that maximizes personal outcomes at the expense of the group, it is also very interesting to note that the behavior of idiocentric individuals is somewhat aloof to the situation. Our results show that, for high idiocentrics, there is little difference in cooperation between those who perceived a more cooperative norm (mean = 6.67) and those who perceived a less cooperative norm (mean = 6.26). This result seems to echo what van Lange (1999) proposed as the "integrative model of social value orientation" in which he suggested that proselves do not engage much in reciprocal cooperation and do not react strongly to feedback about the behavior of others. One explanation for such insensitivity to situation cues is that more idiocentric persons do not rely on the normative information in their decision making process but focus more on their personal goals.

Finally, similar to our results with respect to allocentrism, idiocentrism was not a significant moderator on the relationship between group identity and cooperation. These results suggest that group identity is not strongly influenced by cultural orientations but perhaps should be viewed as an important condition for cooperation across populations with

diverse cultural orientations. This is in contrast to the influence of group norms in predicting cooperative behavior, which appears to be more culture-bound. Interestingly, the recent meta-analysis by Oyserman et al. (2002) shows that when allocentrism is operationalized as relationality (i.e., feeling close to the members of the group, enjoying being with them), the difference between idiocentric and allocentric samples disappears. Yet, when feelings of obligation towards the group and concerns for in-group harmony are contrasted, the difference between allocentrics and idiocentrics emerges. These observations are in line with our results, which also support the cultural salience of group norms and the universality of group identity.

This study contributes to the social dilemma literature in several important ways. First, it directly tested the group norm hypothesis that was proposed to explain the robust communication effects. We found the relationship between group norm and cooperation in the public goods dilemma to be complex and culture-bound. Second, this study provides additional evidence as how group identity might influence cooperation across cultural contexts. These findings not only enrich and deepen our understandings about the effects of group/social norm and identity on individual behavior, but also help to develop more advanced theories in explaining individual cooperation in situations where people face conflict between maximizing personal interest and maximizing collective interest.

Finally, this study introduces an individual-level cultural variable into the social dilemma study, which extends the scope of the social dilemma research by examining the cultural influence on individual cooperative decision-making. With majority of the social dilemma research not examining the cultural effect and majority of the cross-cultural research not examining individual cooperative decision-making in the social dilemma context, this study fills the void. Moreover, since cultural influence can be studied at the individual, group

and society levels, the results of this study indicate some directions for future research at more macro levels, for example, treating the group as a basic unit of observation, how group perception of organizational norms influence group cooperation, how group cultural orientation influences the effects of perceived organizational norms on group cooperation. Future studies may also examine whether the individual-level effects will be more or less strong in different cultural contexts at the societal level. For example, whether the main cultural orientation of the society will facilitate or inhibit these effects, or whether the societal culture will prime certain cultural values in the individual and how the primed cultural orientation interact with the chronicle (or more stable) cultural orientation in determining a person's tendency to follow perceived group norms in decision making.

4.1 Limitations and conclusions

As with any other research, the contributions of this study should be evaluated by taking into account some of the inevitable limitations. Our findings entirely rely on a laboratory experiment with a student sample, which arguably represents an artificial context not representative of the real life dilemmas. However, sampling individuals from two countries as well as from different types of groups (randomly assigned vs. natural) enabled a realistic variance on the variables that were critical to this study. Nevertheless, we strongly advocate further replications with organizational samples as individuals with different cultural orientations are increasingly working together, both face-to-face as well as virtually. Another limitation is that we used a one-shot game instead of a repeated public goods game in testing our hypotheses, which could limit our conclusions to groups that are ad hoc, without a history or a future. Nevertheless, the single-shot design excludes alternative explanations to the findings of this study, such as reciprocity and reputation building. In future research, it will be

desirable to design a longitudinal study to examine how group identity develops, how group norms form over time, and how they affect individual cooperation, and how individual cultural orientation moderates these relationships at different stages of group development. Future research efforts should also aim to improve on the measurement of the variables in this study. While we were able to demonstrate measurement invariance across the two samples, we believe that the two-item measurement of group norms may be a limitation and strongly encourage the development of a broader scale.

Finally, our results indicate that even though idiocentrism/ allocentrism and group identity / group norm explained some unique variance in predicting cooperative behavior, there is still a significant amount of variance unexplained. Several other variables, such as whether the group is perceived to be an ingroup or an outgroup (Earley, 1993) and whether individuals feel the importance of their contribution to group success (Chen, Au, & Komorita, 1996; Kerr, 1992) may further influence cooperation. In addition, future cross-cultural social dilemma research may particularly benefit from investigations of trust (cognition or affect-based) among group members (Chen, Chen, & Meindl, 1998), and social motives such as social reputation or relational concerns like feeling respected (De Cremer, 2003).

Although the findings of this study are based on intra-cultural groups, the individual level examination of idiocentrism / allocentrism and its related findings point some implications for managing intercultural relations at various levels and social domains. For instance, at the individual level, as more and more members of work groups come from different cultures, managers will need to focus on individual employee values to understand group dynamics and the different mechanisms that might be used to induce cooperation. At the societal level, the fact that nations with different dominant values will be more susceptible to

different social cues (e.g., collectivist nations will pay more attention to what others do before making their decision) could be used to design different systems to induce cooperation. Our findings suggest that while it will be necessary for nations to establish basic identity toward the “One World” (i.e., group identity), it will be more important to address how cooperation will be beneficial to those who hold a more idiocentric view of their nation, and to emphasize how cooperation is a normative behavior to more allocentric nations.

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Table 1
The Payoff Matrix for a 4-Person Group

Your Contribution to J-Account	<u>Mean Contribution of Other Members to J-Account</u>						
	\$0	...	\$3	...	\$6	...	\$10
\$0	\$10	...	\$14.5	...	\$19	...	\$25
\$5	\$7.5	...	\$12	...	\$16.5	...	\$22.5
\$10	\$5	...	\$9.5	...	\$14	...	\$20

Table 2
Fit Indices for Measurement Models

Model	χ^2	<u>df</u>	χ^2/\underline{df}	SRMSR	GFI	AGFI	NNFI	CFI	RMSEA
Individual models									
U.S.	47.59	38	1.25	.039	.97	.95	.99	.99	.028
China	57.28	38	1.51	.040	.97	.95	.96	.98	.038
Multi-sample	105.17	76	1.38	.040	.97	--	.98	.99	.033
Constrained	123.58	83	1.49	.053	.96	--	.98	.98	.038

Table 3

Means, Standard Deviations and Correlations among Analysis Variables

	Mean	SD	1	2	3	4	5	6	7	8
1. Contribution to J-account	6.55	2.82	--							
2. Country (1=USA, 0=PRC)	2.55	1.50	-.02	--						
3. Familiarity (1= No, 2= Yes)	1.46	.50	.30**	-.05	--					
4. Warm-up Interaction (1=no, 2=yes)	1.49	.50	-.18*	.00	-.01	--				
5. Perceived group norm	5.74	1.93	.22**	-.19**	.28*	.08	(.73)			
6. Group Identity	7.23	1.42	.23**	-.39**	.50**	.17*	.31**	(.85)		
7. Allocentrism	6.92	.87	.09	-.15**	.08	-.02	.23**	.27**	(.73)	
8. Idiocentrism	6.71	1.40	-.09	.41**	-.11	-.05	-.26**	-.22*	-.17*	(.79)

Note. * $p < .05$, ** $p < .01$. The correlations and the consistency coefficients reported in the diagonal are for the combined sample.

Table 4

Effects of Group Norm, Group Identity, Allocentrism and Idiocentrism on Individual

Cooperation--Standardized Regression Coefficients

	<u>Individual Cooperation</u>
Step 1:	
Country	.01 $\Delta R^2 = .00$ $\Delta F(1, 597) = .10$
Step 2:	
Cooperative Norm (GN)	.16***
Group Identity (GI)	.25***
Idiocentrism (IDI)	-.06
Allocentrism (ALO)	.01
	$\Delta R^2 = .11$ $\Delta F(4, 593) = 17.64***$
Step 3:	
GN X IDI	-.15**
GI X IDI	.07
GN X ALO	.09*
GI X ALO	.02
	$\Delta R^2 = .03$ $\Delta F(4, 589) = 5.72***$
Overall model	$R^2 = .14$ $F(9, 589) = 10.64***$

*p < .05

**p < .01

***p < .001

Figure 1

Interaction of Group Norm and Allocentrism on Individual Cooperation

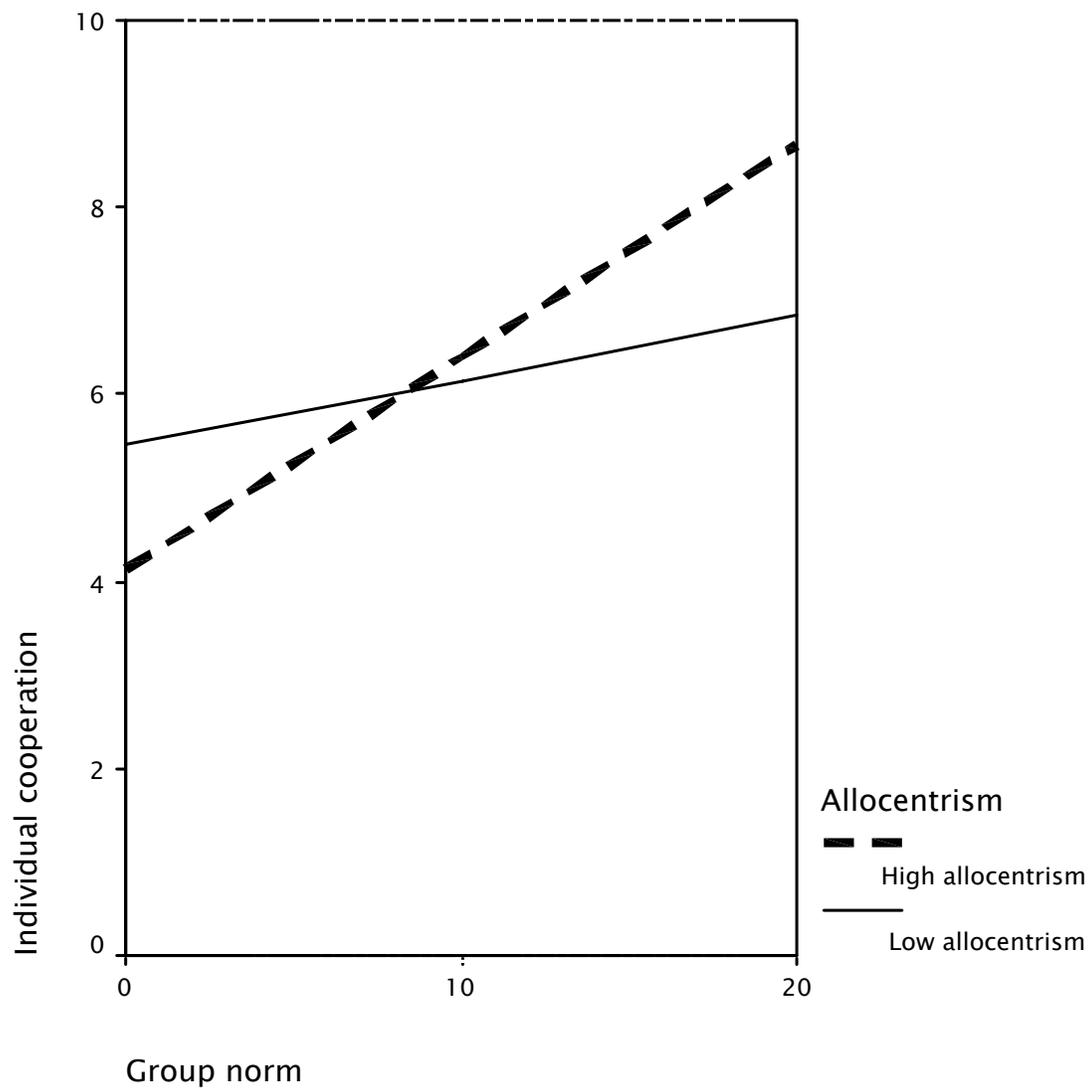
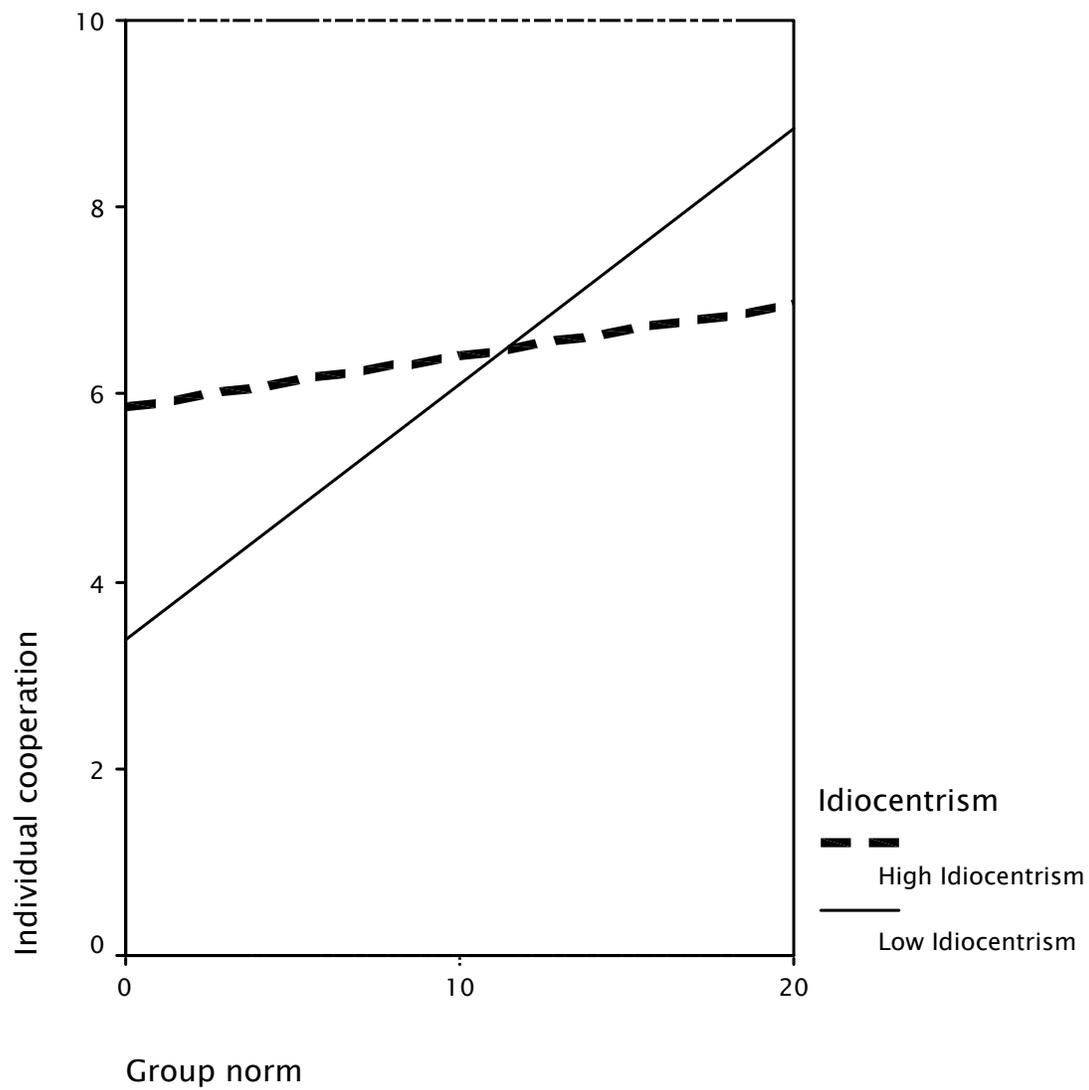


Figure 2

Interaction of Group Norm and Idiocentrism on Individual Cooperation



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